

**WHAT IS CLAIMED IS:**

1. A system for designing an information flow process, comprising:
- 5 a data storage unit for storing a predetermined set of activity names in a predetermined sequence, the activity names respectively representing certain service operations;
- an input/output unit connected to said data storage unit for displaying the activity names as information provider activity names and information consumer activity names according to the predetermined sequence in a predetermined data flow definition (DFD) matrix format and for receiving user input data for specifying an information name, one of the information provider activity names and a corresponding one of the information consumer activity names; and
- 10 a processing unit connected to said input/output unit and said data storage unit for organizing relationships among the information provider activity names, the information consumer activity names and the information names at a position in the predetermined DFD matrix format representing data to be transmitted from the information provider activity name to the information consumer activity name, said processing unit storing the relationships in an entity relation (ER) source information file.
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- 20 2. The system for designing an information flow process according to claim 1 wherein said input/output unit receives the user input data for modifying the activity names, said processing unit updating the relationships and the DFD matrix format for displaying the modified activity names, said processing unit storing the modified activity names in the ER source information file.
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3. The system for designing an information flow process according to claim 1 wherein said input/output unit receives the user input data for modifying the predetermined sequence for the activity names, said processing unit updating the relationships and the DFD matrix format for displaying the modified predetermined sequence for the activity names, said processing unit storing the modified predetermined sequence for the activity names in the ER source information file.
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4. The system for designing an information flow process according to claim 1 wherein said input/output unit receives the user input data for modifying the information names, said processing unit updating the relationships and the DFD matrix format for displaying the modified information names, said processing unit storing the modified information names in the ER source information file.

5. The system for designing an information flow process according to claim 1 wherein said input/output unit receives the user input data for modifying the positions of the information names, said processing unit updating the relationships and the DFD matrix format for displaying the modified positions of the information names, said processing unit storing the modified positions of the information names in the ER source information file.

6. The system for designing an information flow process according to claim 1 wherein said input/output unit receives the user data for further determining associated detailed activities of a selected one of the activity names, said processing unit updating the predetermined DFD matrix format based upon the associated detailed activities for displaying the activity names, said processing unit storing the activity names with the associated detailed activities in the ER source information file.

7. The system for designing an information flow process according to claim 6 wherein said input/output unit further comprises a structure data flow (SDF) input screen based upon the ER source information file for receiving the user input data for the associated detailed activities via the SDF input screen.

8. The system for designing an information flow process according to claim 7 wherein said SDF input screen displays an information provider activity name, an input information name, a detailed activity name, an output information name and an information consumer activity name.

9. The system for designing an information flow process according to claim wherein said input/output unit displays a service function design table based upon information from the

ER source information file, the service function design table allowing a user to define a new service function, said input/output unit receiving the user input data at least for systematization factors, said processing unit storing the systematization factors and the information in the service function design table as a new function description.

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10. The system for designing an information flow process according to claim 9 wherein the user input data includes activity contents and subjects.

11. The system for designing an information flow process according to claim 9 further comprising a printer connected to said processing unit for printing the new function description.

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12. The system for designing an information flow process according to claim 1 wherein said input/output unit displays a service information design table based upon information from the ER source information file, the service information design table allowing a user to define new service information, said input/output unit receiving the user input data at least for systematization factors, said processing unit storing the systematization factors and the information in the service information design table as an input/output information overview.

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13. The system for designing an information flow process according to claim 12 wherein the user input data includes activity contents and subjects.

14. The system for designing an information flow process according to claim 12 further comprising a printer connected to said processing unit for printing the input/output information overview.

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15. The system for designing an information flow process according to claim 1 wherein said input/output unit receives the user input data for selecting sequential pairs of the activity names and the information names from the DFD matrix, said processing unit storing the sequential pairs of the activity names and the information names into an event trace table, said processing unit reading one of the activity names from the event trace

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18. A system for designing an information flow process, comprising:

a data storage unit for storing a predetermined set of activity names in a predetermined sequence, the activity names respectively representing certain service operations;

5 an input/output unit connected to said data storage unit for displaying the activity names as information provider activity names and information consumer activity names according to the predetermined sequence in a predetermined data flow definition (DFD) matrix format and for receiving user input data for specifying an information name, one of the information provider activity names and a corresponding one of the information  
10 consumer activity names; and

a processing unit connected to said input/output unit and said data storage unit for organizing relationships among the information provider activity names, the information consumer activity names and the information names at a position in the predetermined DFD matrix format representing data to be transmitted from the information provider  
15 activity name to the information consumer activity name, said processing unit storing the relationships in an entity relation (ER) source information file,

wherein said input/output unit displays a service function design table based upon information from the ER source information file, the service function design table allowing a user to define a new service function, said input/output unit further receiving additional  
20 user input data at least for systematization factors, said processing unit storing the systematization factors and the information in the service function design table as a new function description.

19. A system for designing an information flow process, comprising:

25 a data storage unit for storing a predetermined set of activity names in a predetermined sequence, the activity names respectively representing certain service operations;

an input/output unit connected to said data storage unit for displaying the activity names as information provider activity names and information consumer activity names  
30 according to the predetermined sequence in a predetermined data flow definition (DFD) matrix format and for receiving user input data for specifying an information name, one of

the information provider activity names and a corresponding one of the information consumer activity names; and

a processing unit connected to said input/output unit and said data storage unit for organizing relationships among the information provider activity names, the information consumer activity names and the information names at a position in the predetermined DFD matrix format representing data to be transmitted from the information provider activity name to the information consumer activity name, said processing unit storing the relationships in an entity relation (ER) source information file,

wherein said input/output unit displays a service information design table based upon information from the ER source information file, the service information design table allowing a user to define new service information, said input/output unit receiving additional user input data at least for systematization factors, said processing unit storing the systematization factors and the information in the service information design table as an input/output information overview.

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20. A system for designing an information flow process, comprising:

a data storage unit for storing a predetermined set of activity names in a predetermined sequence, the activity names respectively representing certain service operations;

20 an input/output unit connected to said data storage unit for displaying the activity names as information provider activity names and information consumer activity names according to the predetermined sequence in a predetermined data flow definition (DFD) matrix format and for receiving user input data for specifying an information name, one of the information provider activity names and a corresponding one of the information

25 consumer activity names; and

a processing unit connected to said input/output unit and said data storage unit for organizing relationships among the information provider activity names, the information consumer activity names and the information names at a position in the predetermined DFD matrix format representing data to be transmitted from the information provider activity name to the information consumer activity name, said processing unit storing the relationships in an entity relation (ER) source information file,

wherein said input/output unit receives additional user input data for selecting sequential pairs of the activity names and the information names from the DFD matrix, said processing unit storing the sequential pairs of the activity names and the information names into an event trace table, said processing unit reading one of the activity names from  
5 the event trace table, said processing unit causing the input/output unit to display the one of the activity names in an event record column in an event trace diagram, said processing unit reading a corresponding one of the information names from the event trace, said processing unit causing the input/output unit to display the corresponding one of the information names in a row that corresponds to the one of the activity names in the event  
10 record column.